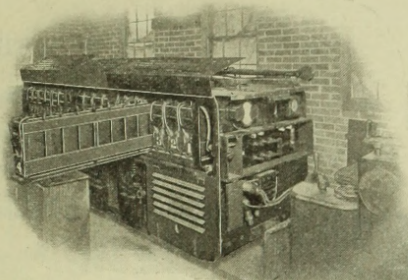


# Edison Storage Battery Company

Main Office and Factory

232 LAKESIDE AVENUE, ORANGE, N. J.

**The Edison Nickel-Iron-Alkaline Storage Battery** which, as its name suggests, is radically different from every other kind of storage battery, is constructed throughout of nickel-plated sheet steel. The positive active material (nickel hydrate) is contained in perforated, seamless steel tubes; the negative active material (iron oxide) in perforated box-like steel pockets. These receptacles are secured to nickel-plated steel grids. The plates are assembled on nickel-plated steel pole pieces, positive on one and negative on another and locked in permanent position by nuts on the end of the connector rods. These groups are "sandwiched" together; insulated from each other by strips of specially prepared hard rubber and the assembly placed in a steel container with more special insulators that prevent any electrical contact with the container. The top, also of steel, is welded on by the oxy-acetylene process, the same process by which the bottom and side seam of the container are welded, thus making the container for the Edison Cell a one-piece product.



Edison Batteries.

## Simplicity and Ruggedness

The holes through which the poles protrude are hermetically sealed. The only opening in an Edison Cell is an aperture in a valve box mounted on the top through which distilled water or renewal solution may be added.

The poles are tapered to fit correspondingly tapered holes in the lugs of Edison connectors. These lugs are held tightly in position by nuts screwed on the tops of the poles, making a perfect electrical contact which eliminates all necessity for brazing or "lead burning."

The Edison Cell is not permanently injured by short circuits nor from standing idle in a charged, discharged or semi-charged condition. Its rugged mechanical construction eliminates injury from vibration or concussion or from buckling of plates. Bulletin 1125 describes many of its applications.

## The Edison Electric Safety Mine Lamp

is equipped with two Edison Cells, connected in series, and fitted into a light rust-proof metal case  $6\frac{5}{8}$  inches high and  $6 \times 1\frac{3}{4}$  inches horizontal dimensions. A twin-conductor, rubber-covered, amply-armored cable connects the battery to a cap lamp which consists

of a nickel-plated brass reflector provided with a hook to fit into the miner's cap. A Tungsten Lamp is forced into a spring socket in such a way that if the lamp be broken the base is immediately disconnected and the filament extinguished.

The Edison Electric Safety Mine Lamp is the first to be approved by the Bureau of Mines "for safety and for practicability and efficiency in general service" under Schedule 6A from which we quote briefly:



Locomotives Equipped with 4-Year Old Edison Batteries.

"Hand lamps and the head-pieces of cap lamps will be dropped 10 times upon a concrete floor from a point 6 feet above it. As the result of these dropping tests there must be no breakage of the battery jar nor material distortion of the casing of the battery or of the shell of the headpiece. \* \* \* The dropping tests of the headpiece must demonstrate that the safety devices will not operate unnecessarily.

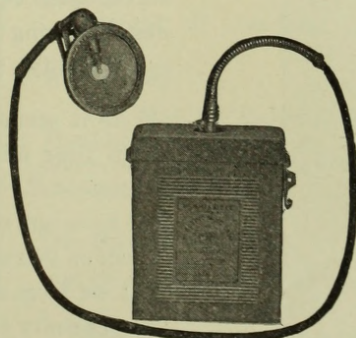
"Cap lamps will be dropped 10 times upon a wooden floor from a point 3 feet above it. There must be no breakage of the battery jar nor material distortion of the casing."

The Edison Safety Mine Lamp is odorless. The solution is not spilled even when the lamp is violently shaken or even inverted. Special charging rooms are never required. All the characteristics of the Edison Cell are common to the Edison Safety Mine Lamp, which is described in Bulletin 1234.

## Edison-Equipped Storage Battery Locomotives

Gathering work, short and frequent hauls, infrequent heavy hauls and the usual rough service met with in mine work are conditions in modern mining practice that demand electric storage battery mine locomotives equipped with storage batteries of rugged mechanical construction.

The all-steel Edison Alkaline Storage Battery by virtue of its sturdy characteristics is used in one-half of all the storage-battery mining locomotives of this country. A description of this service is given in Bulletin 1023.



The Edison Electric Safety Mine Lamp.